REMARKS

Claims 1-36 are currently pending in the subject application and are presently under consideration. Claims 1, 3-5, and 7-36 have been amended as shown on pages 4-10 of the Reply. Also, the specification has been amended as indicated on page 2. In addition, FIG. 1 of the drawings has also been amended as indicated on page 3 herein, and as shown in the Replacement Sheet for FIG. 1, submitted herewith and attached hereto. No new matter has been added.

Applicants' representative thanks the Examiner for the courtesies extended during the telephonic conference on November 1, 2006, with Francis Dunn. As addressed at the conference, there was discussion with regard to the Examiner's rejections under 35 U.S.C. §§ 102 and 103, as set forth in the Office Action, dated September 25, 2006. There was also discussion of proposed amendments to the subject claims to overcome those rejections. The Examiner indicated that proposed amendments to the subject claims that relate to distinctive features of the claimed subject matter, such as that related to a decision model that determines the routing of a call based on a probability, where the probability is based in part on a sequence of system actions, and a probability tree that determines a likelihood of success based on a sequence of system actions, may produce allowable subject matter.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I.   Objections to Claims

Claims 12-37 stand objected to due to minor informalities regarding the numbering of claims. Claims 12-37 have been amended and renumbered as claims 11-36. Withdrawal of this objection is respectfully requested in light of amendments to the subject claims herein.

Claim 15 stands objected to due to minor informalities related to claim format. Withdrawal of this rejection is respectfully requested in light of amendments to claim 15 herein.

II.   Rejection of Claims 1-10, 12-26, and 32-36 Under 35 U.S.C. § 102(e)

Claims 1-10, 12-26, and 32-36 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Joseph, *et al.* (US 6,807,274). It is requested that this rejection be withdrawn for at least the following reasons. Joseph, *et al.* does not disclose each and every element of the subject claims.

> For a prior art reference to anticipate, 35 U.S.C. § 102 requires that "*each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950 (Fed. Cir. 1999) (*quoting Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)) (emphasis added).

The claimed subject matter relates to systems and methods of facilitating the automated routing of calls. The claimed subject matter can include a call routing and decision system that can provide automated responses to callers. If a caller has trouble making a connection with a party, the system can switch from the automated system and connect the caller to a human operator to provide further assistance to the caller. The claimed subject matter can employ one or more decision models to facilitate efficient operations of the system, provide more efficient coupling between callers and respondents, and mitigate caller frustration when interacting with such system. The decision models can be trained *via* a data log that can have recorded data of past activities and interactions with the call routing system, for example. Such data can include statistical information such as how often speakers have been found or not found, how often an operator has been requested, and how often users quit sessions, among other categories. The decision models can employ probability to determine the likelihood of a successful outcome (*e.g.*, automatically routing call to a member of an organization) to the incoming call. The probability can be based on various dialog features, such as a sequence of system actions, the number of dialog turns, and/or the length of the session, for example. Output from the decision models can be employed for call routing determinations, as the call routing system can work in concert with the decision models to facilitate call routing between callers and individuals to be contacted.

In particular, independent claim 1 (and similarly independent claims 19 and 20), as amended, recites: a decision model *. . . that employs probability to determine a likelihood of success in automatically routing the incoming call, the likelihood of success determined based in part on a sequence of system actions associated with the incoming call*. Joseph, *et al.* does not disclose this distinctive feature of the claimed subject matter.

Rather, Joseph, *et al.* discloses an interactive voice response system for providing customer service and routing calls from manual to automated dialogs. (*See* col. 1, lns. 7-10). When a customer calls with a problem, the task to be performed for the customer is first identified. (*See* col. 3, lns. 58-61). Task identification is accomplished when the customer selects a menu option at the outset of the problem detection dialog. (*See* col. 3, lns. 59-62). Based on the problem or task identified by the customer, the probability of successful resolution of the task *via* an automated system is then determined. (*See* col. 3, lns. 66-67). To determine the probability that the customer will receive a satisfactory resolution from the automated system, the task identification information is the subject of a database lookup, where the probability can be based on statistical data representing past calls and success rates. (*See* col. 4, lns. 1-6). A determination is then made as to how to route the call, based in part on the probability that the automated dialog will resolve the customer's problem, and the customer's call will either be sent to the automated system to receive a response related to the identified task, or will be placed in a queue to wait for a service representative. (*See* col. 3, lns. 43-49; col. 4, lns. 6-32).

However, unlike the claimed subject matter, Joseph, *et al.* is silent regarding employing probability to determine a likelihood of success in automatically routing an incoming call, where *the likelihood of success is determined based in part on a sequence of system actions* associated with the incoming call. Instead, Joseph, *et al.* discloses that the probability of a satisfactory resolution is based on the *identified task* utilizing statistical data of past calls and success rates with regard to the *identified task*. (*See* col. 3, ln. 58 – col. 4, ln. 6).

In contrast, the claimed subject matter can include a decision model that can employ probability to determine the likelihood of success in automatically routing a call to a member of an organization. The likelihood of success can be determined *based on a*

sequence of system actions (*e.g.*, operator introduction, requesting the name of the member sought, requesting the user to pick an option) associated with the incoming call. The output of the decision model can be utilized by the automated call routing component to make a determination with regard to whether the incoming call should remain in the automated system or be routed to an operator, for example.

Further, claim 7 recites: ***the decision model employs a probability tree to determine the likelihood of success in automatically routing the incoming call given a sequence of system actions***. Joseph, *et al*. does not disclose this distinctive aspect of the claimed subject matter.

Rather, Joseph, *et al*. simply discloses utilizing a *query tree* to determine the task to be performed. (*See* col. 2, ln. 66 – col. 3, ln. 5). A query tree is not equivalent to a probability tree, as they each have different functions. The query tree is simply used to determine which query to ask next – it does not involve probability. Further, for at least the reasons stated, *supra*, Joseph, *et al*. fails to disclose determining the likelihood of success in automatically routing an incoming call given a sequence of system actions.

In contrast, the claimed subject matter can employ a probability tree where probability can be employed to show the likelihood of success in automatically routing an incoming call. The probability tree can be displayed as a tree where each branch can represent a system action, for example. The likelihood of success in routing the incoming call can be determined based on the sequence of system actions.

Moreover, claim 8 recites: ***the decision model determines the likelihood of success based on p(SpeakFound|E), wherein SpeakFound is the member, E is observational evidence of system actions taken, and p is a probability, in part by counting a number of logged cases along an action sequence that resulted in success over a total number of cases along the sequence***. Joseph, *et al*. is silent regarding this distinctive feature of the claimed subject matter.

Instead, Joseph, *et al*. discloses that the probability is used to determine whether the detected task can be successfully resolved by the automated system. (*See* col. 3, lns. 66-67). Joseph, *et al*. also discloses that statistical data representing past calls and success rates. (*See* col. 4, lns. 1-3). However, unlike the claimed subject matter, Joseph, *et al*. fails to disclose determining a likelihood of success in automatically routing a call

based on a probability determined by, in part, counting the number of logged cases along an action sequence that resulted in success over a total number of cases along the sequence. Further, for at least reasons similar to those stated, *supra*, Joseph, *et al.* fails to disclose determining the likelihood of success based on observational evidence of system actions taken.

In view of at least the foregoing, it is readily apparent that Joseph, *et al.* fails to disclose each and every element of the claimed subject matter as recited in independent claims 1, 19, and 20 (and associated dependent claims 2-10, 12-18, 21-26, and 32-36). Accordingly, it is believed that the subject claims are in condition for allowance, and the rejection should be withdrawn.

III.   Rejection of Claims 27-31 Under 35 U.S.C. § 103(a)

Claims 27-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Joseph, *et al.* (US 6,807,274). It is requested that this rejection be withdrawn for at least the following reason. Joseph, *et al.* does not disclose, teach, or suggest each and every element of the claimed subject matter. Claims 27-31 depend from independent claim 20. For at least the reasons stated, *supra*, Joseph, *et al.* does not disclose, teach, or suggest each and every element of independent claim 20. Accordingly, it is believed that claims 27-31 are in condition for allowance, and the rejection of the subject claims should be withdrawn.

IV.   Rejection of Claim 11 Under 35 U.S.C. § 103(a)

Claim 11 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Joseph, *et al.* (US 6,807,274) in view of Chittineni (US 4,747,054). It is requested that this rejection be withdrawn for at least the following reason. Joseph, *et al.* and Chittineni, *et al.*, alone or in combination, do not disclose, teach, or suggest each and every element of the claimed subject matter. Claim 11 depends from independent claim 1. Chittineni, *et al.* fails to cure the aforementioned deficiencies of Joseph, *et al.* as to independent claim 1. Rather, Chittineni, *et al.* relates to a process for defining similarities and differences between two signals that carry common information but have undergone differing response mechanisms. (*See* col. 1, lns. 61-64). Thus, it is believed

that claim 11 is in condition for allowance, and the rejection as to claim 11 should be withdrawn.

<div align="center">

CONCLUSION

</div>

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063[MSFTP471US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

AMIN, TUROCY & CALVIN, LLP

/HIMANSHU S. AMIN/

HIMANSHU S. AMIN

Reg. No. 40,894

AMIN, TUROCY & CALVIN, LLP
24TH Floor, National City Center
1900 E. 9TH Street
Cleveland, Ohio 44114
Telephone (216) 696-8730
Facsimile (216) 696-8731